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File No. 3404/0F546

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**In re Application of: Masaru MIYAMOTO *et al.* Confirmation No. 9716

Serial No.: 09/297,399

Group Art Unit: 1714

Filed: April 29, 1999

Examiner: C. E. SHOSHO

For: WATER BASED INK COMPOSITION FOR BALLPOINT PEN

**CLAIMS PENDING AFTER MARCH 4, 2003 RESPONSE**

Assistant Commissioner for  
Patents  
Washington, DC 20231

March 4, 2003

Sir:

1. (Five Times Amended) A water based ink composition for a ballpoint pen which comprises a thickener which is associative and swells in an alkaline medium, said thickener comprising a polymer having a carboxyl group and a hydrophobic group selected from the group consisting of a linear hydrocarbon, a halogenated alkyl, an organosilicon group, and a fluorinated carbon group, a pigment whose particles are subjected to surface treatment with a

water soluble polymer and a surfactant, a polar solvent comprising water and other water-miscible solvents and a pH controlling agent.

2. (Amended) The water based ink composition for a ballpoint pen as described in claim 1, wherein the thickener is contained in a proportion of 0.1 to 8% by weight based on the ink composition and dissolves and swells in the polar solvent to associate with the particle surface of the pigment, thereby increasing the ink viscosity.

5. The water based ink composition of claim 1, wherein said thickener is present in the amount of 0.1 to 2.0% by weight based on the ink composition.

6. (Twice Amended) The water based ink composition for a ballpoint pen of claim 1 wherein the hydrophobic group is a linear hydrocarbon.

7. (Amended) The water based ink composition for a ballpoint pen of claim 1 wherein the hydrophobic group is a halogenated alkyl.

8. The water based ink composition for a ballpoint pen of claim 1 wherein the hydrophobic group is an organosilicon group.

9. The water based ink composition for a ballpoint pen of claim 1 wherein the hydrophobic group is a fluorinated carbon group.

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